



PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: February 20, 2009

Name of Applicant: Riverside Contracting, Inc.

Source: Portable Drum Mix Asphalt Plant with Associated Equipment

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 2561-04.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by March 23, 2009. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

Ed Warner
Environmental Engineer
Air Resources Management Bureau
(406) 444-2467

VW:EW
Enclosures

MONTANA AIR QUALITY PERMIT

Issued To:	Riverside Contracting, Inc. 2110 South Reserve Street Missoula, Montana 59801	Permit: #2561-04 Application Complete: 01/21/2009 Preliminary Determination Issued: 02/20/2009 Department's Decision Issued: Permit Final: AFS #:777-2561
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An air quality permit, with conditions, is hereby granted to Riverside Contracting, Inc. (Riverside) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Riverside operates a portable drum mix asphalt plant and associated equipment which as of the date of this permit action is located in the SE¼ of Section 22, Township 13 North, Range 11 West, in Powell County, Montana. However, Montana Air Quality Permit (MAQP) #2561-04 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

Addendum #3 applies to the Riverside facility while operating at any location in or within 10 km of certain PM₁₀ nonattainment areas during the summer months (April 1 – September 30) and at sites approved by the Department during the winter months (October 1 – March 31), including the McHenry Site (Section 34, Township 29 North, Range 21 West, Flathead County).

B. Current Permit Action

On January 12, 2009, the Department received a letter from Riverside requesting modification to permit #2561-03 to include the operation of a diesel-powered engine/generator with a maximum design capacity of 1,071 horsepower (hp). Riverside also requested to renew Addendum 2 that expired on September 30, 1999. The current permit action also updates the permit to reflect current permit language and rule references used by the Department. In addition, the emission inventory has been updated.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.340 ARM 17.8.752, and 40 CFR 60, Subpart I).
2. Riverside shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart I).

3. Riverside shall not cause or authorize to be discharged into the atmosphere from dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart I).
4. Riverside shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. Riverside shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.749).
6. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (wet scrubber) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained (ARM 17.8.749).
7. Once a stack test is performed, the asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
8. Hours of operation shall be limited to 2,600 hours per rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
9. Asphalt production is limited to 1,040,000 tons per year during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
10. Riverside shall not operate more than one diesel engine/generator at any given time and the engine shall not have a capacity greater than 1,071 hp (ARM 17.8.749).
11. If the permitted equipment is used in conjunction with any other equipment owned or operated by Riverside, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
12. Riverside shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 Code of Federal Regulations (CFR) 60, Subpart I, as it applies to this asphalt operation (ARM 17.8.340 and 40 CFR 60, Subpart I).
13. Riverside shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart III; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving the maximum production rate, but not later than 180 days after initial start up, an Environmental Protection Agency (EPA) Methods 1-5 source test shall be performed on the asphalt plant to demonstrate compliance with Section II.A.1. An EPA Method 9 opacity test shall be performed in conjunction with all particulate tests to demonstrate compliance with the conditions specified in Sections II.A.2. and II.A.3. The plant was last tested July 2006, testing shall continue on an every-four-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749).
2. Pressure drop on the control device and temperature must be recorded daily and kept on site according to Section II.C.2 (ARM 17.8.749).
3. Pressure drop on the control device and temperatures must be recorded during the compliance source test and reported as part of the test results (ARM 17.8.749).
4. Since asphalt production will be limited to the average production rate during the compliance source test, it is suggested the test be performed at the highest production rate practical (ARM 17.8.749).
5. Riverside may retest at any time in order to test at a higher production rate (ARM 17.8.749).
6. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
7. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Riverside shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Riverside shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an

increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. Riverside shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Riverside as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
5. Riverside shall document, by month, the asphalt production from the facility. By the 25th day of each month, Riverside shall calculate the crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Riverside shall document, by month, the hours of operation of the facility. By the 25th day of each month, Riverside shall calculate the hours of operation of the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Riverside shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

1. Within 30 days of commencement of construction of any NSPS-affected equipment, Riverside shall notify the Department of the date of commencement of construction of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
2. Within 15 days of the actual start-up date of any NSPS-affected equipment, Riverside shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
3. Within 15 days of the actual start-up date of any non-NSPS-affected equipment, Riverside shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.749).

SECTION III: Addendum

Riverside shall comply with all conditions in Addendum #3 to MAQP #2561-04, as applicable (ARM 17.8.749)

SECTION IV: General Conditions

- A. Inspection – Riverside shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Riverside fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Riverside of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756)
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Riverside may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).
- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Riverside shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Permit Analysis
Riverside Contracting, Inc.
Permit #2561-04

I. Introduction/Process Description

Riverside Contracting, Inc. (Riverside) owns and operates a portable drum mix asphalt plant and associated equipment.

A. Permitted Equipment

1. 1983 Cedar Rapids 8828 portable drum mix asphalt plant and associated equipment, serial number #28852, with a 400 ton per hour (TPH) capacity.
2. One diesel-fired engine/generator with a capacity of up to 1,071 horsepower (hp).

B. Source Description

For a typical operational set-up, different raw materials are introduced into the drum mixer. First, aggregate materials are taken from the on-site aggregate stockpiles and dumped via a front end loader into the cold aggregate feed bins. The cold aggregate is then transferred from the cold aggregate feed bins via conveyor to the drum mixer. The cold aggregate is dried and mixed with the other raw materials in the drum mixer and the drum mixer burner is fired with waste oil. Oil is then introduced to the drum mixer through hoses from the diesel-fired portable hot oil heater tank. Once all raw materials have been introduced into the drum mixer they are continuously mixed and heated by the drum mixer burner. The diesel-fired generator powers the operation.

After heating and mixing is completed, the asphalt product is transferred from the drum mixer to the asphalt product silo via a conveyor. The asphalt remains in the asphalt silo until it is loaded into trucks for transport to a given job location.

C. Permit History

On April 21, 1989, **Permit #2561-00** was issued to Marvin A. Rehbein to operate a 1983 Cedar Rapids 8828 portable drum mix asphalt plant #28852 (400 TPH) and associated equipment.

On March 15, 1994, **Permit #2561-01** was issued to Riverside Contracting, Inc. Permit #2561-01 transferred ownership of the above-listed equipment from Marvin A. Rehbein to Riverside. **Permit #2561-01** replaced Permit #2561-00.

On March 5, 1996, Riverside requested that Permit #2561-01 be modified to allow the asphalt plant to operate in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas during the summer months (April 1 through September 30). **Permit #2561-02** replaced Permit #2561-01 and **Addendum 1** was established.

On February 10, 1999, Riverside requested that Permit #2561-02 and Addendum 1 be modified to allow for only summer months of operation (April 1 through September 30) in or within 10 km of any of the following PM₁₀ nonattainment areas: Kalispell, Whitefish, Columbia Falls, Butte, Lincoln, Libby, and Thompson Falls. In addition, initial source testing language was removed from Section II.B of the permit because the initial tests had

been completed. The plan became responsible for emission testing every four years from the latest test which was conducted on August 26, 1998. **Permit #2561-03** replaced Permit #2561-02 and **Addendum 2** replaced Addendum 1.

D. Current Permit Action

The current permitting action is in response to a request for modification to Permit #2561-03 to include the operation of a diesel-powered engine/generator with a maximum design capacity of 1,071 hp. The current permitting action reflects the operation of the diesel-powered engine/generator, updates the emission inventory to reflect current Department of Environmental Quality (Department) standards and to include the emissions from the diesel-powered engine/generator, establishes Addendum 3, and updates the permit to reflect current permit language and rule references used by the Department. **Permit #2561-04** replaces Permit #2561-03 and **Addendum 3** replaces Addendum 2.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Riverside shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Riverside must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Riverside shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Based on the information provided by Riverside, the 1983 Cedar Rapids asphalt plant with associated equipment is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts:

- a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart I – Standards of Performance of Hot Mix Asphalt Facilities. In order for an asphalt plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Riverside, the Asphalt plant equipment to be used under Permit #2561-04 is subject to this subpart because the facility is a hot mix asphalt facility.
 - c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), indicates that NSPS requirements apply to owners or operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE is manufactured after April 1, 2005, and is not a fire pump engine. Since this permit is written in a de minimis friendly manner, this regulation may apply to engines in the future.
7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below.
- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a National Emission Standard for Hazardous Air Pollutants (NESHAPs) Subpart as listed below.
 - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). As an area source, the diesel RICE will be subject to this rule. However, although diesel RICE engines are an affected source, per 40 CFR 63.5490(b)(3) they do not have any requirements unless they are new or reconstructed after June 12, 2006. Since the permit is written in a de minimis friendly manner, area source provisions of the Maximum Available Control Technology (MACT) requirements may apply to future engines.
- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Riverside submitted the appropriate permit application fee for the current permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.
- An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Riverside has a PTE greater than 15 tons per year of particulate matter, oxides of nitrogen, carbon monoxide, volatile organic compounds, oxides of sulfur, and total organic compounds; therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Riverside submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Riverside submitted an affidavit of publication of public notice for the January 11, 2009, issue of the *Missoulian*, a newspaper of general circulation in the Town of Missoula in Missoula County, as proof of compliance with the public notice requirements.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
 7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
 8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
 9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Riverside of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
 10. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
 - a. PTE > 100 tons/year of any pollutant;

- b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2561-04 for Riverside, the following conclusions were made:
- a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to a current NSPS (40 CFR 60, Subpart I and potentially subject to Subpart IIII).
 - e. This facility is potentially subject to area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).
 - f. This source is not a Title IV affected source or a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

Based on these facts, the Department has determined that Riverside will be a minor source of emissions as defined under Title V because Riverside requested to take federally enforceable limitations to keep them out of the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be subject to the Title V Operating Permit Program.

- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
 - i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.
3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for each new or modified source. Riverside shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

The current permit action is to modify the permit to add a diesel-powered engine/generator to Permit #2561-04. Because of the limited amount of emissions produced by the diesel engine and the lack of readily available, cost effective add-on controls; add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no additional controls would constitute BACT for the diesel engine.

IV. Emission Inventory

CONTROLLED Emission Source	tons/year					
	PM	PM₁₀	NO_x	CO	VOC	SO_x
Cold Aggregate Storage Piles	0.86	0.41	--	--	--	--
Cold Aggregate Handling/Conveyors	0.07	0.02	--	--	--	--
Diesel-Fired Asphalt Oil Heater	--	--	--	0.01	--	--
400 TPH Drum Mix Asphalt Plant Dryer	8.67	6.94	28.60	67.60	16.64	30.16
Asphalt Product Silo Filling	0.30	--	--	0.61	--	--
Batch Mix Plant Load-Out	0.27	--	--	0.70	--	--
Lime Silo	0.20	0.20	--	--	--	--
Haul Roads / Vehicle Traffic	1.69	0.47	--	--	--	--
1071 hp Diesel Engine Generator	3.06	3.06	43.16	9.30	3.50	2.85
Total Emissions	15.13	11.10	71.76	78.22	20.14	33.01

NOTE: annual hours of operation are restricted with enforceable permit conditions to reduce annual potential emissions.

Operating Parameters

Maximum Process Rate: 400 ton/hr (Maximum Plant Capability)
 Maximum Hours of Operation: 2600 hr/yr (Permit Limit – annual restriction)
 Output: 1,040,000 ton/yr (Permit Limit – annual restriction)
 Plant Elevation: 4300 ft. (Department Information)
 Actual Pressure: 25.62 in. Hg (Estimate)
 Standard Pressure: 29.92 in. Hg
 Actual Flowrate (V2): 35,000 acfm (Company Information)
 Standard Temp: 20C = 68F = 528R
 Assumed Stack Temp. 66C = 150F = 610R
 Standard Volumetric Flowrate Correction: $V1 = V2 (P2/P1) (T1/T2)$
 Standard Volumetric Flowrate: $V1 = 35000 \text{ acfm} * (25.62 \text{ in. Hg} / 29.92 \text{ in. Hg}) * (528 \text{ R} / 610 \text{ R})$
 Standard Volumetric Flowrate (V1): 25,946 scfm
 Stack Gas Moisture Content (M): 25 % (From 7/2006 Stack Test)
 Dry Standard Volumetric Flowrate: $V1 * (1 - M/100) = 25,946 \text{ scfm} * (1 - 25/100)$
 Dry Standard Volumetric Flowrate: 19,460 dscfm

Drum Mix Asphalt Plant Dryer

PM Emissions

Emission Factor: 0.04 gr/dscf (permit limit NSPS)
 Calculation: $(0.04 \text{ gr/dscf}) * (19,460 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 6.67 \text{ lb/hr}$
 Calculation: $(6.67 \text{ lb/hr}) * (2600 \text{ hr/yr}) * (0.0005 \text{ ton/lb}) = \mathbf{8.67 \text{ ton/yr}}$

PM₁₀ Emissions

Emission Factor: 0.032 gr/dscf (permit limit NSPS, assume 80% of TSP [PM] is PM₁₀)
 Calculations: $(0.032 \text{ gr/dscf}) * (19,460 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 5.34 \text{ lb/hr}$
 Calculation: $(5.34 \text{ lb/hr}) * (2600 \text{ hr/yr}) * (0.0005 \text{ ton/lb}) = \mathbf{6.94 \text{ ton/yr}}$

NO_x Emissions

Emission Factor: 0.055 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.055 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{28.60 \text{ ton/yr}}$

CO Emissions

Emission Factor: 0.13 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.13 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{67.60 \text{ ton/yr}}$

VOC Emissions

Emission Factor: 0.032 lb/ton (AP-42, Section 11.1, Table 11.1-8, worst-case fuel, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.032 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{16.64 \text{ ton/yr}}$

Sulfur oxides (SO_x) Emissions

Emission Factor: 0.058 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.058 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{30.16 \text{ ton/yr}}$

Diesel-fired engine/generator

Emission factors for small engines are used to make the calculations de minimis friendly (small engine emission factors more conservative than large engine emission factors).

Operational Capacity of Engine = up to 1,071 hp

Hours of Operation = 2,600 hours

PM₁₀ Emissions

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
 Calculation: $(2,600 \text{ hours}) * (1,071 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{3.06 \text{ ton/yr}}$

PM Emissions

PM Emissions = **3.06 ton/yr** (Assume PM = PM₁₀)

NO_x Emissions

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
 Calculation: $(2,600 \text{ hours}) * (1,071 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{43.16 \text{ ton/yr}}$

CO Emissions

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
 Calculation: $(2,600 \text{ hours}) * (1,071 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{9.30 \text{ ton/yr}}$

VOC Emissions

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)
 Calculation: $(2,600 \text{ hours}) * (1,071 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{3.50 \text{ ton/yr}}$

SO_x Emissions

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
 Calculation: $(2,600 \text{ hours}) * (1,071 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{2.85 \text{ ton/yr}}$

Cold Aggregate Storage Piles

This Emission Inventory is based on maximum plant process rate (400 tph) rather than the actual number of individual piles because the number of aggregate piles may change depending on project requirements.

PM Emissions

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331 \text{ lb/ton}$$

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = \mathbf{0.86 \text{ ton/yr}}$$

PM₁₀ Emissions

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156 \text{ lb/ton}$$

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = \mathbf{0.41 \text{ ton/yr}}$$

Conveyor Transfer Points

Number of Transfers = 1 transfer (Company Information, Excludes RAP transfers)

PM Emissions

Emission Factor = 0.00014 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hrs/yr}) * (0.00014 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ transfer}) = \mathbf{0.07 \text{ ton/yr}}$$

PM₁₀ Emissions

Emission Factor = 0.000046 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.000046 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ transfer}) = \mathbf{0.02 \text{ ton/yr}}$$

Diesel-Fired Asphalt Oil Heater

Production Rate = 5.00 gal/hr (Company information)

CO Emissions

Emission Factor = 0.0012 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)

$$\text{Calculation: } (2600 \text{ hr/yr}) * (5.00 \text{ gal/hr}) * (0.0012 \text{ lb/gal}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.01 \text{ ton/yr}}$$

Silo Filling

PM Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

$$\text{Emission Factor} = 0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00059 \text{ lb/ton}$$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.00059 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.30 \text{ ton/yr}}$$

CO Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

$$\text{Emission Factor} = 0.00488(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00118 \text{ lb/ton}$$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

$$\text{Calculation: } (400 \text{ ton/hr}) * (2600 \text{ hr/yr}) * (0.00118 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.61 \text{ ton/yr}}$$

Plant Load-Out

PM Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

$$\text{Emission Factor} = 0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00052 \text{ lb/ton}$$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
 T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hrs/yr}) * (0.00052 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.27 \text{ ton/yr}}$

CO Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = $0.00558(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00135 \text{ lb/ton}$
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
 T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: $(400 \text{ ton/hr}) * (2600 \text{ hrs/yr}) * (0.00135 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.70 \text{ ton/yr}}$

Lime Silo

Flow Capacity = 450 cfm (Company information)

PM Emissions

Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)
Calculation: $(450 \text{ cfm}) * (2600 \text{ hrs/yr}) * (0.04 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (\text{ton}/2000 \text{ lb}) * (60 \text{ min/hr}) = \mathbf{0.20 \text{ ton/yr}}$

PM₁₀ Emissions

Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)
Calculation: $(450 \text{ cfm}) * (2600 \text{ hrs/yr}) * (0.04 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (\text{ton}/2000 \text{ lb}) * (60 \text{ min/hr}) = \mathbf{0.20 \text{ ton/yr}}$

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)
VMT per hour = $(5 \text{ VMT/day}) * (\text{day}/24 \text{ hrs}) = 0.21 \text{ VMT/hr}$

PM Emissions

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = $k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$
Where: k = constant = 4.9 lbs/VMT (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)
 s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
 W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
 a = constant = 0.7 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)
 b = constant = 0.45 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)
Calculation: $(2600 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 3.37 \text{ tons/yr}$
(Uncontrolled Emissions)
Calculation: $(2600 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) = \mathbf{1.69 \text{ tons/yr}}$
(Apply 50% control efficiency)

PM₁₀ Emissions

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = $k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$
Where: k = constant = 1.5 lbs/VMT (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)
 s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
 W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
 a = constant = 0.9 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)
 b = constant = 0.45 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)
Calculation: $(2600 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 0.93 \text{ tons/yr}$
(Uncontrolled Emissions)
Calculation: $(2600 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) = \mathbf{0.47 \text{ tons/yr}}$
(Apply 50% control efficiency)

V. Existing Air Quality

This permit is for a portable drum mix asphalt plant to locate in various locations throughout the state of Montana. In the view of the Department, the amount of controlled particulate emissions generated by this project will not cause concentrations of pollutants in the ambient air that will exceed any set standard.

VI. Air Quality Impacts

Permit #2561-04 covers operation of this portable drum mix asphalt plant while operating in those areas within Montana, classified as being in attainment with federal ambient air quality standards, and those areas not yet classified. This permit contains conditions and limitations that would protect air quality for the site and surrounding area, and that would limit the facility's emissions below the Title V threshold. Based on the information provided, the amount of controlled emissions generated by this facility will not exceed any set ambient air quality standard.

VII. Ambient Air Impact Analysis

The Department determined, based on ambient air modeling, that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Addendum 3
Riverside Contracting, Inc.
Permit #2561-04

An addendum to Montana Air Quality Permit #2561-04 is hereby granted to Riverside Contracting, Inc. (Riverside) pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment:

Riverside owns and operates a portable 1983 Cedar Rapids Drum Mix Asphalt Plant (maximum capacity 400 tons per hour (TPH)) with a wet scrubber and dust collector, a diesel-fired engine/generator of up to 1,071 (hp) horsepower, and associated material handling and processing equipment.

II. Seasonal and Site Restrictions – **Winter and Summer Seasons**

Addendum 3 applies to the Riverside facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

- A. During the summer season only (April 1-September 30) – Riverside may operate at any location in or within 10 km of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM₁₀ nonattainment areas.
- B. Riverside shall comply with the limitations and conditions contained in Addendum 3 to Permit #2561-04 while operating in or within 10 km of any of the previously identified PM₁₀ nonattainment areas. Addendum 3 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum 3 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

A. Operational Limitations and Conditions: **Summer Season (April 1 – September 30)**

- 1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart I).
- 2. Riverside shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
- 3. Riverside shall not cause or authorize to be discharged into the atmosphere from any equipment, such as screens or transfer points, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
- 4. Riverside shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

5. Riverside shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).
6. During the Summer Season, total asphalt production shall not exceed 9,600 tons per day (ARM 17.8.749).

B. Operational Reporting Requirements

1. If this portable asphalt plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Production information for the sites covered by this addendum must be maintained for 5 years and submitted to the Department upon request. The information must include (ARM 17.8.749):
 - a. Tons of asphalt produced at each site,
 - b. Daily hours of operation at each site,
 - c. Gallons of diesel used by each generator at each site,
 - d. Hours of operation and sizes for each generator at each site, and
 - e. Fugitive dust information consisting of the total miles driven on unpaved roads for all plant vehicles.
3. Riverside shall document, by day, the total amount of asphalt produced. Riverside shall sum the total amount of asphalt produced for the previous day to verify compliance with the limitation in Section III.A.6. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749).

Addendum 3 Analysis
Riverside
Permit #2561-04

I. Permitted Equipment

Riverside (Riverside) owns and operates a portable 1983 Cedar Rapids Drum Mix Asphalt Plant (maximum capacity 400 tons per hour (TPH)), a diesel-fired engine and generator with a design capacity of up to 1,071 horsepower (hp), and associated material handling and processing equipment.

II. Source Description

For a typical operational set-up, different raw materials are introduced into the drum mixer. First, aggregate materials are taken from the on-site aggregate stockpiles and dumped via a front end loader into the cold aggregate feed bins. The cold aggregate is then transferred from the cold aggregate feed bins via conveyor to the drum mixer. The cold aggregate is dried and mixed with the other raw materials in the drum mixer and the drum mixer burner is fired with waste oil. Oil is then introduced to the drum mixer through hoses from the diesel-fired portable hot oil heater tank. Once all raw materials have been introduced into the drum mixer they are continuously mixed and heated by the drum mixer burner. The diesel-fired generator powers the operation.

After heating and mixing is completed, the asphalt product is transferred from the drum mixer to the asphalt product silo via a conveyor. The asphalt remains in the asphalt silo until it is loaded into trucks for transport to a given job location.

III. Permit History

On April 21, 1989, **Permit #2561-00** was issued to Marvin A. Rehbein to operate a 1983 Cedar Rapids 8828 portable drum mix asphalt plant #28852 (400 TPH) and associated equipment.

On March 15, 1994, **Permit #2561-01** was issued to Riverside Contracting, Inc. Permit #2561-01 transferred ownership of the above-listed equipment from Marvin A. Rehbein to Riverside. Permit #2561-01 replaced Permit #2561-00.

On March 5, 1996, Riverside requested that Permit #2561-01 be modified to allow the asphalt plant to operate in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas during the summer months (April 1 through September 30). **Permit #2561-02** replaced permit #2561-01 and **Addendum 1** was established.

On February 10, 1999, Riverside requested that Permit #2561-02 and Addendum 1 be modified to allow for only summer months of operation (April 1 through September 30) in or within 10 km of any of the following PM₁₀ nonattainment areas: Kalispell, Whitefish, Columbia Falls, Butte, Lincoln, Libby, and Thompson Falls. In addition, initial source testing language was removed from Section II.B of the permit because the initial tests had been completed. The plan became responsible for emission testing every 4 years from the latest test which was conducted on August 26, 1998. **Permit #2561-03** replaced Permit #2561-02 and **Addendum 2** replaced Addendum 1.

IV. Current Permit Action

The current permitting action is in response to a request for modification to Permit #2561-03 to include the operation of a diesel-powered engine/generator with a maximum design capacity of 1,071 hp. The current permitting action reflects the operation of the diesel-powered engine/generator, updates the emission inventory to reflect current Department of Environmental Quality (Department) standards and to include the emissions from the diesel-powered engine/generator, establishes Addendum 3, and updates the permit to reflect current permit language and rule references used by the Department. **Permit #2561-04** replaces Permit #2561-03 and **Addendum 3** replaces Addendum 2.

V. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

- A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
- B. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.
- C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:
 - 1. Written notice of intent to transfer location and proof of public notice are sent to the Department;
 - 2. The source will operate in the new location for a period of less than 1 year; and
 - 3. The source will not have any significant impact on any nonattainment area or any Class I area.

VI. Emission Inventory

Summer Season (unrestricted)

CONTROLLED		Pounds/day				
Emission Source	PM	PM₁₀	NO_x	CO	VOC	SO_x
Cold Aggregate Storage Piles	15.86	7.50	--	--	--	--
Cold Aggregate Handling/Conveyors	1.34	0.44	--	--	--	--
Diesel-Fired Asphalt Oil Heater	--	--	--	0.14	--	--
400 TPH Drum Mix Asphalt Plant Dryer	160.10	128.08	528.00	1248.00	307.20	556.80
Asphalt Product Silo Filling	5.62	--	--	11.33	--	--
Batch Mix Plant Load-Out	5.01	--	--	12.95	--	--
Lime Silo	3.70	3.70	--	--	--	--
Haul Roads / Vehicle Traffic	31.15	8.59	--	--	--	--
1071 hp Diesel Engine Generator	56.55	56.55	796.82	171.70	64.62	52.69
Total Emissions	279.34	204.86	1324.82	1444.13	371.82	609.49

NOTE: PM₁₀ emissions are less than 541 pounds per day with unrestricted use.

Operating Parameters

Maximum Process Rate: 400 tons/hr (Maximum Plant Capability)
 Maximum Hours of Operation: 24 hrs/day (Unrestricted—Summer Season)
 Output: 9,600 tons/day (Unrestricted—Summer Season)
 Plant Elevation: 4300 ft. (Department Information)
 Actual Pressure: 25.62 in. Hg (Estimate)
 Standard Pressure: 29.92 in. Hg
 Actual Flowrate (V2): 35,000 acfm (Company Information)
 Standard Temp: 20C = 68F = 528R
 Assumed Stack Temp: 66C = 150F = 610R
 Standard Volumetric Flowrate Correction: $V_1 = V_2 (P_2/P_1) (T_1/T_2)$
 Standard Volumetric Flowrate: $V_1 = 35000 \text{ acfm} * (25.62 \text{ in. Hg} / 29.92 \text{ in. Hg}) * (528R / 610R)$
 Standard Volumetric Flowrate (V1): 25,941 scfm
 Stack Gas Moisture Content (M): 25 % (From 7/2006 Stack Test)
 Dry Standard Volumetric Flowrate: $V_1 * (1 - M/100) = 25,941 \text{ scfm} * (1 - 25/100)$
 Dry Standard Volumetric Flowrate: 19,456 dscfm

Drum Mix Asphalt Plant Dryer

PM Emissions

Emission Factor: 0.04 gr/dscf (permit limit, NSPS)
 Calculation: $(0.04 \text{ gr/dscf}) * (19,456 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 6.67 \text{ lb/hr}$
 Calculation: $(6.67 \text{ lb/hr}) * (24 \text{ hr/day}) = \mathbf{160.10 \text{ lb/day (Summer Hours)}}$

PM₁₀ Emissions

Emission Factor: 0.032 gr/dscf (permit limit, assume 80% of TSP is PM₁₀)
 Calculations: $(0.032 \text{ gr/dscf}) * (19,456 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 5.34 \text{ lb/hr}$
 Calculation: $(5.34 \text{ lb/hr}) * (24 \text{ hr/day}) = \mathbf{128.08 \text{ lb/day (Summer Hours)}}$

NO_x Emissions

Emission Factor: 0.055 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (24 \text{ hr/day}) * (0.055 \text{ lb/ton}) = \mathbf{528.00 \text{ lb/day (Summer Hours)}}$

CO Emissions

Emission Factor: 0.13 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)
 Calculation: $(400 \text{ ton/hr}) * (24 \text{ hr/day}) * (0.13 \text{ lb/ton}) = \mathbf{1,248.00 \text{ lb/day (Summer Hours)}}$

VOC Emissions

Emission Factor: 0.032 lb/ton (AP-42, Section 11.1, Table 11.1-8, worst-case fuel, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hr/day}) * (0.032 \text{ lb/ton}) = \mathbf{307.20 \text{ lb/day (Summer Hours)}}$

Sulfur oxides (SO_x) Emissions

Emission Factor: 0.058 lb/ton (AP-42, Section 11.1, Table 11.1-7, Drum Mix, burning waste oil, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hr/day}) * (0.058 \text{ lb/ton}) = \mathbf{556.80 \text{ lb/day (Summer Hours)}}$

Diesel-fired engine/generator

Emission factors for small engines (≤ 600 hp) are used to make the calculations de minimis friendly (small engine emission factors more conservative than large engine emission factors).

Operational Capacity of Engine = up to 1,071 hp

Hours of Operation = 9 hours/day

PM₁₀ Emissions

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: $(24 \text{ hrs/day}) * (1,071 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) = \mathbf{56.55 \text{ lb/day (Summer Hours)}}$

PM Emissions

PM Emissions = **56.55 lb/day (Summer Hours, Assume PM = PM₁₀)**

NO_x Emissions

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: $(24 \text{ hrs/day}) * (1,071 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) = \mathbf{796.82 \text{ lb/day (Summer Hours)}}$

CO Emissions

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: $(24 \text{ hrs/day}) * (1,071 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) = \mathbf{171.70 \text{ lb/day (Summer Hours)}}$

VOC Emissions

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)

Calculation: $(24 \text{ hrs/day}) * (1,071 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) = \mathbf{64.62 \text{ lb/day (Summer Hours)}}$

SO_x Emissions

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: $(24 \text{ hrs/day}) * (1,071 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) = \mathbf{52.69 \text{ lb/day (Summer Hours)}}$

Cold Aggregate Storage Piles

This Emission Inventory is based on maximum plant process rate (400 tph) rather than the actual number of individual piles because the number of aggregate piles may change depending on project requirements.

PM Emissions

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331 \text{ lb/ton}$

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00331 \text{ lb/ton}) * (1 - 50/100) = \mathbf{15.86 \text{ lb/day (Summer Hours)}}$

PM₁₀ Emissions

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156 \text{ lb/ton}$

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00156 \text{ lb/ton}) * (1 - 50/100) = \mathbf{7.50 \text{ lb/day (Summer Hours)}}$

Conveyor Transfer Points

Number of Transfers = 1 transfer (Company Information, Excludes RAP transfers)

PM Emissions

Emission Factor = 0.00014 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00014 \text{ lb/ton}) * (1 \text{ transfer}) = \mathbf{1.34 \text{ lb/day (Summer Hours)}}$

PM₁₀ Emissions

Emission Factor = 0.000046 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.000046 \text{ lb/ton}) * (1 \text{ transfer}) = \mathbf{0.44 \text{ lb/day (Summer Hours)}}$

Diesel-Fired Asphalt Oil Heater

Production Rate = 5.00 gal/hr (Company information)

CO Emissions

Emission Factor = 0.0012 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)

Calculation: $(24 \text{ hrs/day}) * (5.00 \text{ gal/hr}) * (0.0012 \text{ lb/gal}) = \mathbf{0.14 \text{ lb/day (Summer Hours)}}$

Silo Filling**PM Emissions**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00059 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00059 \text{ lb/ton}) = \mathbf{5.62 \text{ lb/day (Summer Hours)}}$

CO Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00488(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00118 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00118 \text{ lb/ton}) = \mathbf{11.33 \text{ lb/day (Summer Hours)}}$

Plant Load-Out**PM Emissions**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00052 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00052 \text{ lb/ton}) = \mathbf{5.01 \text{ lb/day (Summer Hours)}}$

CO Emissions

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00558(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00135 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(400 \text{ ton/hr}) * (24 \text{ hrs/day}) * (0.00135 \text{ lb/ton}) = \mathbf{12.95 \text{ lb/day (Summer Hours)}}$

Lime Silo

Flow Capacity = 450 cfm (Company information)

PM Emissions

Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)

Calculation: $(450 \text{ cfm}) * (24 \text{ hrs/day}) * (0.04 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (60 \text{ min/hr}) = \mathbf{3.70 \text{ lb/day (Summer Hours)}}$

PM₁₀ Emissions

Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)

Calculation: $(450 \text{ cfm}) * (24 \text{ hrs/day}) * (0.04 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (60 \text{ min/hr}) = \mathbf{3.70 \text{ lb/day (Summer Hours)}}$

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)

VMT per hour = $(5 \text{ VMT/day}) * (\text{day}/24 \text{ hrs}) = 0.21 \text{ VMT/hr}$

PM Emissions

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$

Where: k = constant = 4.9 lbs/VMT (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.7 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: $(24 \text{ hrs/day}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (1 - 50/100) = \mathbf{31.15 \text{ lb/day (Summer Hours)}}$

PM₁₀ Emissions

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$

Where: k = constant = 1.5 lbs/VMT (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.9 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: $(24 \text{ hrs/day}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (1 - 50/100) = \mathbf{8.59 \text{ lb/day (Summer Hours)}}$

VII. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀). Due to exceedances of the national standards for PM₁₀, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM₁₀. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM₁₀ State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to PM₁₀ emissions.

Permit #2561-04 and Addendum 3 are for a portable drum mix asphalt plant that will locate at sites in or within 10 kilometers (km) of certain PM₁₀ nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would operate on an intermittent and temporary basis and any effects on air quality will be minor and short-lived.

VIII. Air Quality Impacts

Permit #2561-04 and Addendum 3 will cover the operations of this portable asphalt plant while operating at any location within Montana, excluding those counties that have a Department approved permitting program and those areas that are tribal lands.

Addendum 3 will cover the operations of this portable asphalt plant while operating in or within 10 km of PM₁₀ nonattainment areas during the summer months (April 1 through September 30).

IX. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

X. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Permit Analysis Prepared by: Ed Warner

Date: February 13, 2009

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, MT 59620
(406) 444-3490

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Riverside Contracting, Inc.

Air Quality Permit number: #2561-04

Preliminary Determination Issued: February 20, 2009

Department Decision Issued:

Permit Final:

1. *Legal Description of Site:* The equipment listed in permit #2561-04 is currently located in the SE¼ of Section 22, Township 13 North, Range 11 West, in Powell County.
2. *Description of Project:* Riverside owns and operates an existing portable asphalt drum mixer with a maximum production capacity of 400 TPH at various locations across Montana. The current permit action is to add a diesel-powered engine/generator to an existing asphalt plant. The size of the diesel engine associated with this permitting action is 1,071 hp.
3. *Objectives of Project:* The objective of this permitting action would be for Riverside to update the equipment inventory of their existing plant to include a diesel engine/generator up to 1,071 hp. The issuance of Permit #2561-04 and Addendum 3 would allow Riverside to operate the permitted engine at various locations throughout Montana, including the current location.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because Riverside has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #2561-04 and Addendum 3.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

There is a possibility that terrestrials would use the same area as the project. Impacts on terrestrial and aquatic life could result from storm water runoff and pollutant deposition, but such impacts would be minor because the diesel-powered engine/generator would be considered a minor source of emissions, and would have intermittent and seasonal operations. Furthermore, the air emissions would have only minor effects on terrestrial and aquatic life because facility emissions would be well dispersed in the area of operation (see Section 8.F of this EA). Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the engine’s operation.

B. Water Quality, Quantity and Distribution

Adding the engine/generator to this existing asphalt plant would not cause an increase in water consumption. Any pollutant deposition in the area would be seasonal and intermittent given the portable nature of the engine. There would be no additional impacts to water resources and therefore, no surface and groundwater quality impacts would be expected.

C. Geology and Soil Quality, Stability and Moisture

The proposed project would have minor impacts on geology and soil quality, stability and moisture because deposition of air pollutants on soils would be minor (see Section 8.F of this EA). Only minor amounts of pollution would be generated. Pollutants would be widely dispersed before settling upon vegetation and surrounding soils (see Section 8.D of this EA). According to the applicant, Riverside will not disturb any new soils because the engine/generator would be located at an existing site. Therefore, any effects upon geology and soil quality, stability, and moisture at this proposed operational site would be minor and short-term.

D. Vegetation Cover, Quantity, and Quality

The facility would be considered a minor source of emissions by industrial standards and would typically operate in areas previously designated and used for this type of operation. Minor impacts would occur on vegetative cover, quality, and quantity because this facility would be operating on an intermittent and temporary basis. Pollutants would be greatly dispersed and corresponding deposition on vegetation from the proposed project would be minor. Montana Natural Heritage Program (MNHP) noted that there are no known vegetative species of concern at the proposed location. Therefore, given the temporary and portable nature of the engine located at the existing asphalt plant, and the fact that there are no known vegetative species of concern, and that pollutants would be widely dispersed; minor impacts to vegetative cover, quantity and quality would occur as a result of this project.

E. Aesthetics

The engine/generator at the asphalt plant operation would be visible, and would create additional noise. Permit #2561-04 and Addendum 3 would include conditions to control emissions, including visible emissions from the engine/generator. Since the generator associated with the asphalt plant would be portable, and would operate on an intermittent and seasonal basis, any visual aesthetic impacts would be minor and short-lived.

F. Air Quality

Air quality impacts from the proposed diesel-powered engine/generator would be minor because they would operate on an intermittent and temporary basis. In addition, Permit #2561-04 and Addendum 3 would include conditions limiting the facility's opacity and the facility's hours of operation.

Further, the Department determined that the asphalt plant, even with the addition of the engine, would remain a minor source of emissions as defined under the Title V Operating Permit Program because the source's PTE would be limited below the major source threshold level of 100 tons per year for any regulated pollutant. Pollutant deposition from the engine would be minimal because pollutants emitted would be widely dispersed (from factors such as wind speed and wind direction) and would have minimal deposition on the surrounding area (due to site topography of the area and minimal vegetative cover in the area). Therefore, air quality impacts from operating the diesel-powered engine/generator at the existing asphalt plant would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources contacted MNHP. Search results concluded there are seven known vertebrate animal species of concern located within three miles of the facility. The search area, in this case, is defined by the township and range of the proposed site, with an additional one-mile buffer. The MNHP concluded that the endangered species of gray wolf and threatened species of bald eagle could be potentially located near the current site location. Also identified as species of concern that could possibly occupy the same area as the plant were the Columbian sharp-tailed grouse, olive-sided flycatcher, brewer's sparrow, bobolink, and bull trout.

In the mid-to-late 1980s, in an effort to restore wolf populations, the gray wolf was reintroduced into three recovery areas – Northwestern Montana, Central Idaho, and the Greater Yellowstone. Although the initial project area is within the wolf recovery area, the wolf exhibits no particular habitat preference except wolves usually occupy areas with few roads and human disturbance, so it is unlikely that wolves would be impacted by this project.

The Bald Eagle is found primarily in forested areas along rivers and lakes--especially during breeding season. However, nesting site selection is dependent upon food availability and disturbance from human activity. The current location of the asphalt plant would be located in an existing pit approximately 0.5 mile west of Helmville in Powell County. To determine the impact on the local bald eagle population, the Department consulted the U.S. Department of Interior, Bureau of Reclamation Montana Bald Eagle Management Plan (MBEMP). With the MNHP-identified nest being approximately 2.5 miles or more away from the Riverside facility, the site would fall outside the MBEMP nest site management zone classifications (Zone III is classified as the area from 0.5 mile to 2.5 miles in radius from the nest site, Zone II from 0.25 to 0.5 miles, Zone I from 0 to 0.25 miles). Outside of the nest site management zone is considered foraging habitat and may extend well beyond the 2.5 mile radius of Zone III. Management of the foraging areas includes protection from contaminants and physical hazards, management of prey base and human activity plus consideration of other factors which would compromise the ability of the bald eagles to forage effectively and safely. The nest locations would remain unchanged by the facility operation, except for a possible cumulative minor impact by air pollutants (by the facility as a whole), as described in Section 7.F of this EA. The proposed change would not impact the nest area except a possible impact from the slight increase in air pollutants. Therefore, the impact on bald eagles is expected to be minor.

The operation of this diesel engine/generator would result in the emissions of air pollutants that could result in impacts to these species of concern. However, given the temporary and portable nature of the operations, any impacts would be minor and short-lived. Additionally, operational conditions and limitations within Permit #2561-04 and Addendum 3 would aid in the protection of these resources by protecting the surrounding environment. Therefore, air quality impacts from operating the diesel powered generator at the asphalt plant would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The operation of the diesel-powered engine/generator at the portable asphalt plant would not require any water. Impacts to air resources would be minimal because the source would be considered a minor industrial source of emissions, with intermittent and seasonal operations. Because air pollutants generated by the engines would be widely dispersed (see Section 8.F of this EA) and energy requirements would be provided by a diesel engine, and water use would be minimal, any impacts to water, air, and energy resources would be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and archaeological sites that may be present in the proposed area of operation. Search results concluded that there are no previously recorded historical or archaeological resources of concern within the area proposed for initial operation. According to correspondence from the SHPO, there would be a low likelihood of adverse disturbance to any known archaeological or historic site given previous industrial disturbance to the area. Therefore, no impacts upon historical or archaeological sites would be expected as a result of operating the engine at the existing asphalt plant. However, if cultural materials are discovered during this project the Montana Historical Society should be contacted.

J. Cumulative and Secondary Impacts

Operation of the engine/generator would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because they are located at an existing asphalt plant and would be limited in the amount of PM, PM₁₀, NO_x, VOC, CO, and SO_x emissions generated. Emissions and noise generated from the equipment would, at most, result in only minor impacts to the area of operation because it would be seasonal and temporary in nature. Additionally, this facility, in combination with other emissions from equipment operations would not be permitted to exceed 250 tons per year of non-fugitive emissions. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would be minor.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity				X		Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The addition of the engine/generator at the asphalt plant would cause no disruption to the social structures and mores in the area because the source would be considered a minor industrial source of emissions, and would have temporary and intermittent operations. Further, the facility would be required to operate according to the conditions placed in Permit #2561-04 and Addendum 3, which would limit the effects to social structures and mores.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not be impacted by the operation of the engine/generator at the asphalt plant because the facility would be a portable source, with seasonal and intermittent operations. The predominant use of this area would not change as a result of adding an engine to the current permit. Therefore, the cultural uniqueness and diversity of the area could experience minor impacts.

C. Local and State Tax Base and Tax Revenue

Operation of the engine/generator would have little, if any, impact on the local and state tax base and tax revenue because the source would be a minor industrial source of emissions, and would have seasonal and intermittent operations. Only minor impacts to the local and state tax base and revenue could be expected from the employees and facility production. The addition of the engine/generator would not require additional employees. Because the facility would be portable and temporary it is unlikely that people would move to the area as a result of this project. Impacts to local tax base and revenue would be minor and short-term because the source would be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The diesel engine would not have an impact on local industrial production since the engine operation would be minimal and emissions from the engine would be minor. Also, the portable facility would generally locate in a rural area. Minimal deposition of air pollutants would occur on the surrounding land (see Section 8.F of this EA) and only minor and temporary effects on the surrounding vegetation (i.e. agricultural production) would occur. In addition, the engine's operation would be temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation (see Section 8.D of this EA). Overall, the impacts to agricultural or industrial production would be minor.

E. Human Health

Permit #2561-04 and Addendum 3 would incorporate conditions to ensure that operation of the engine/generator would be in compliance with all applicable air quality rules and standards. These rules and standards are designed to protect human health. Air emissions from this facility would be limited by the hours of operation. Because the engine would operate on a temporary basis, and pollutants would be widely dispersed, only minor impacts would be expected on human health from this operation.

F. Access to and Quality of Recreational and Wilderness Activities

Access to recreational opportunities would not be limited by the operation of the diesel-powered generator. All recreational opportunities, if available in the area, would still be accessible. Noise from the facility would be minimal to surroundings because of the limited hours of operation, and rural location. The facility would operate on a seasonal and intermittent basis on private land and would be a minor industrial source of emissions. Therefore, any changes in the quality of recreational and wilderness activities created by operating the equipment at this site would be minor.

G. Quantity and Distribution of Employment

Operation of the diesel engine/generator would not require any additional employees. Other employees that would be associated with the asphalt plant would be a transient (i.e. truck drivers for aggregate, mineral filler, asphalt cement, load out, etc.). Because the operation would be seasonal, no individuals would be expected to permanently relocate as a result of operating the diesel engine. Therefore, no effects upon the quantity and distribution of employment in this area would be expected.

H. Distribution of Population

The operation of the engine/generator at the associated asphalt plant would be considered a portable industrial facility and would require few employees to operate. No individuals would be expected to permanently relocate to this area. Therefore, the operation would not impact the normal population distribution in the initial area of operation or any future operating site.

I. Demands for Government Services

The addition of the diesel powered engine/generator to the existing asphalt plant would cause minimal demand for government services. This project would not result in an increase in traffic on existing roadways. Government services would be required for acquiring the appropriate permits for the proposed project, and to verify compliance with the permits that would be issued. However, any increase or demand for government services would be minor given the temporary and portable nature of the project.

J. Industrial and Commercial Activity

The engine/generator would be considered a relatively small industrial source that would be portable and temporary in nature. No additional industrial or commercial activity would be expected as a result of the proposed operation.

K. Locally Adopted Environmental Plans and Goals

Riverside would be allowed by Permit #2561-04 to operate the diesel-powered engine/generator in areas designated by EPA as attainment or unclassified for ambient air quality. Addendum 3 allows Riverside to operate in or within 10 km of certain PM₁₀ nonattainment areas during the summer season (April 1 – September 30). Permit #2561-04 and Addendum 3 contain limits for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the facility would have intermittent and seasonal operations any impacts from the facility would be minor and short-lived.

L. Cumulative and Secondary Impacts

Operation of the diesel-powered engine/generator would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source would be portable and temporary. Further, no other industrial operations are expected to result from the permitting of this facility. Any minor increase in traffic would have little effect on local traffic in the immediate area. Because the source is relatively small and temporary, only minor economic impacts to the local economy would be expected from operating the engines. Further, this engine may be operated in conjunction with other equipment owned and operated by Riverside, but any cumulative impacts upon the social and economic aspects of the human environment would be minor and short-lived. Thus, only minor and temporary cumulative and secondary effects would result.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the operation of a diesel-fired engine/generator up to 1,071 hp. Permit #2561-04 and Addendum 3 include conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

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